

METHOD FOR PRODUCING SEMICONDUCTOR DEVICE, POLISHING
APPARATUS, AND POLISHING METHOD

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ABSTRACT OF THE DISCLOSURE

A method for producing a semiconductor device,
polishing method, and polishing apparatus, suppressing
occurrence of dishing and erosion in a flattening process
10 by polishing of a metal film for constituting an
interconnection of a semiconductor device having a
multilayer interconnection structure. The production
method includes the steps of: forming a passivation film
exhibiting an action of inhibiting an electrolytic
15 reaction of a metal at the surface of the metal film;
selectively removing the passivation film on a projecting
portion so as to expose the projecting portion of the
metal film at the surface; removing the exposed
projecting portion of the metal film by electrolytic
20 polishing so as to flatten unevenness of the surface of
the metal film; and removing the metal film present on an
insulation film from the metal film with the flattened
surface by electrolytic composite polishing combining
electrolytic polishing and mechanical polishing so as to
25 form an interconnection.